

PITTSBURGH & CASTLE SHANNON RAILROAD,  
REFLECTORVILLE VIADUCT  
(Pittsburgh & Castle Shannon Railroad, Bridge No. 1006)  
Overbrook Trolley Line, Crossing near Edgebrook Avenue  
Pittsburgh  
Allegheny County  
Pennsylvania

HAER NO. PA-410-C

HAER  
PA  
2-PITBU  
76C-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, PA 19106

HISTORIC AMERICAN ENGINEERING RECORD  
PITTSBURGH & CASTLE SHANNON RAILROAD,  
REFLECTORVILLE VIADUCT  
(Pittsburgh & Castle Shannon Railroad, Bridge No. 1006)

HAER  
PA  
2-PITBU  
76C-

HAER No. PA-410-C

Location: Overbrook Trolley Line, Crossing near Edgebrook Avenue  
Pittsburgh  
Allegheny County, Pennsylvania

Quad: Pittsburgh East, Pennsylvania  
UTM: 44.72700.584900

Date of Construction: 1870s

Engineer: Pittsburgh Railways Company

Present Owner: Port Authority of Allegheny County  
2235 Beaver Avenue  
Pittsburgh, Pennsylvania 15233-1080

Present Use: Out of Service

Significance: The Reflectorville Viaduct is one of four bridges which carried the Pittsburgh Railways Company's trolley cars along the 6 mile route from Mount Washington to Castle Shannon.

Project Information: The Port Authority's Stage II Light Rail Transit Project proposes the in-place modernization of the Overbrook, Library, and Drake Trolley Lines. The proposed project will include the removal and replacement of the Reflectorville Viaduct.

Shelley Birdsong, Historian  
Michael Baker Jr., Inc.  
501 Parkway View Drive  
Pittsburgh, Pennsylvania 15205

PITTSBURGH & CASTLE SHANNON RAILROAD,  
REFLECTORVILLE VIADUCT  
(Pittsburgh & Castle Shannon Railroad, Bridge No. 1006)  
HAER No. PA-410-C (Page 2)

The Pittsburgh and Castle Shannon Railroad (P. & C.S.R.R.) constructed the Reflectorville crossing between 1872 and 1874 as the line continued to Castle Shannon, the southern terminus of the railroad.<sup>1</sup> The name of the structure is derived from a small community that was located on the southern side of Saw Mill Run.<sup>2</sup> In 1900, the Pittsburgh Coal Company obtained a controlling interest in the P. & C.S.R.R.. In 1905, the Pittsburgh Railways Company, a large consolidation interest which controlled or operated most of Pittsburgh's street railway lines, leased the P. & C.S.R.R. route.

In 1905, Pittsburgh Railways performed the only major improvements on the structure, as measures were taken to widen and electrify the line immediately. The first improvement was the laying of a third rail to accommodate Pennsylvania Broad Gauge trolley cars. The second capital improvement was detailed in Construction Order 512. This construction order provided for the "[l]aying of electric railway tracks along the right of way of the Pittsburgh and Castle Shannon Railroad from Castle Shannon to [a] point of connection with the Mount Wash. St. Ry. [for the] length of [the] route."<sup>3</sup> This resulted in the retrofitting of the Reflectorville Viaduct for electrical use, not the erection of a new structure. The retrofitting of the entire 6 mile route occurred between April 30, 1909, and December 31, 1910, according to Pittsburgh Railways' records. The total cost for the route's renovation was \$112,584.59.<sup>4</sup> The Reflectorville Viaduct, because of its location, is probably the least altered of the bridges along the P. & C.S.R.R. route.

The original structure was a single-tracked wooden trestle crossing a ravine just east of the present-day intersection of Edgebrook Avenue and Saw Mill Run Boulevard. As early as 1914, Pittsburgh Railways engineering department developed a cost estimate for double-tracking the existing trestle. The total estimated cost was \$25,788.52 and included the installation of 4.905 tons of eighty pound tee-rails, 168 tons of erected steel, and the laying of 412 feet of track.<sup>5</sup> Nothing was to come of this estimate as the bridge only underwent renovation throughout its operational history.<sup>6</sup>

The current structure, by all indications, is the evolution of the same bridge erected by the P. & C.S.R.R.. According to the final bridge inspection report prepared in 1992, the Reflectorville Viaduct is an open deck single-track, fifteen-span railroad bridge. The

---

<sup>1</sup>Anonymous, "Castle Shannon," *Pittsburgh Evening Chronicle*, 15 May 1873, 3.

<sup>2</sup>Fran Accamando and Carol Anthony, Personal Interview, 12 April 1996.

<sup>3</sup>Pittsburgh Railways Company, Ledger of Construction Orders, Description of Construction Order Number 512, located at the Miller Memorial Library, Pennsylvania Trolley Museum, Washington, Pennsylvania.

<sup>4</sup>*Ibid.*

<sup>5</sup>Pittsburgh Railways Company, "Estimate for Track Construction," 21 January 1914. Historic Bridge Files, 920.5 Reflectorville Viaduct Files, Way and Structures Division, Port Authority of Allegheny County, Pittsburgh, Pennsylvania. (Hereinafter cited as Reflectorville Viaduct Files).

<sup>6</sup>Pittsburgh Railways Company, Ledger of Construction Orders, Description of Construction Order Number 512, Miller Memorial Library, Pennsylvania Trolley Museum, Washington, Pennsylvania.

PITTSBURGH & CASTLE SHANNON RAILROAD,  
REFLECTORVILLE VIADUCT  
(Pittsburgh & Castle Shannon Railroad, Bridge No. 1006)  
HAER No. PA-410-C (Page 3)

superstructure consists of rails, timber ties, and guard timbers supported by two steel stringers. The substructure consists of timber bents and double-angle knee braces. The steel stringers span from bent to bent is 25' in length.<sup>7</sup> The viaduct's overall length is 306'-6" and its height is approximately 38' above the floor of the ravine.

Besides the electrification of the rail line, routine maintenance appears to be the only alteration to the viaduct. The first maintenance order for the structure was the construction of an improved deck, using creosoted lumber; and "the removal and subsequent construction of such parts of the existing structure and track as interfere with the improvement; and . . . the addition of concrete protection to the foundation. . . ." Pittsburgh Railways completed this work in 1924.<sup>8</sup> The company constructed a new deck on the Reflectorville Viaduct between July 26, 1933 and January 26, 1934. As per Construction Order 2644, the reconstruction was to reduce maintenance costs by the use of long-life, treated timber and to eliminate hazards due to defective foundations. The construction's total cost was \$4,149.98.<sup>9</sup> This type of reconstruction occurred throughout the history of the structure including the years 1949, 1953, 1956, 1957, 1958, 1960, 1965, 1966, 1970, and 1974-1975.<sup>10</sup>

Throughout the life of the structure, the only work done by Pittsburgh Railways and the Port Authority of Allegheny County was timber, track, and substructure renewal. The structure, as a wooden trestle, continued to serve as a crossing on the Overbrook Trolley Line under the Port Authority. This increases the bridge's importance as it most probably is the only remaining wooden trestle, used in a Pittsburgh area transportation corridor. In 1993, the viaduct was taken out of service when the Overbrook Trolley line operations were suspended. The current project requires the removal of this structure. However, the crossing will continue to evolve as the Port Authority proposes to construct a new bridge for the Light Rail Transit System project.

---

<sup>7</sup>AWK Consulting Engineers, "Periodic NBIS Bridge Inspection Report--Reflectorville Viaduct," April 1992.

<sup>8</sup>Pittsburgh Railways Company, "Authority for Improvements, E.O. Number 2644," 13 September 1924, Reflectorville Viaduct Files.

<sup>9</sup>Pittsburgh Railways Company, "Construction Order 2644," 27 January 1934, Reflectorville Viaduct Files.

<sup>10</sup>Ronald Carlisle, Pennsylvania Historic Resource Survey Form for the Reflectorville Viaduct, "Historical Summary," 1993, 3-4.

## Sources of Information

### Primary Resources

Accamando, Fran and Carol Anthony. Personal Communication dated 12 April 1996.

Pittsburgh Railways Company Papers--AIS 74:29. Hillman Library, Archives for Industrial Society, University of Pittsburgh, Pittsburgh, Pennsylvania.

Pittsburgh Railways Company Papers. Located at the Miller Memorial Library, Pennsylvania Trolley Museum, Washington, Pennsylvania.

Port Authority of Allegheny County Agreement Files 920.5 of the Overbrook, Drake, and Library Trolley Lines, Way and Structures Division, South Hills Junction Office, Pittsburgh, Pennsylvania.

### Secondary Resources

AWK Consulting Engineers. "Periodic NBIS Bridge Inspection Report--Reflectorville Viaduct, Prepared for the Port Authority of Allegheny County." Pittsburgh, Pennsylvania, April 1992.

Carlisle, Ronald C. Pennsylvania Historic Resource Survey Form-Reflectorville Viaduct, 1993.

### Newspapers

Anonymous, "Castle Shannon," *Pittsburgh Evening Chronicle*. 15 May 1873, 3.

### Maps

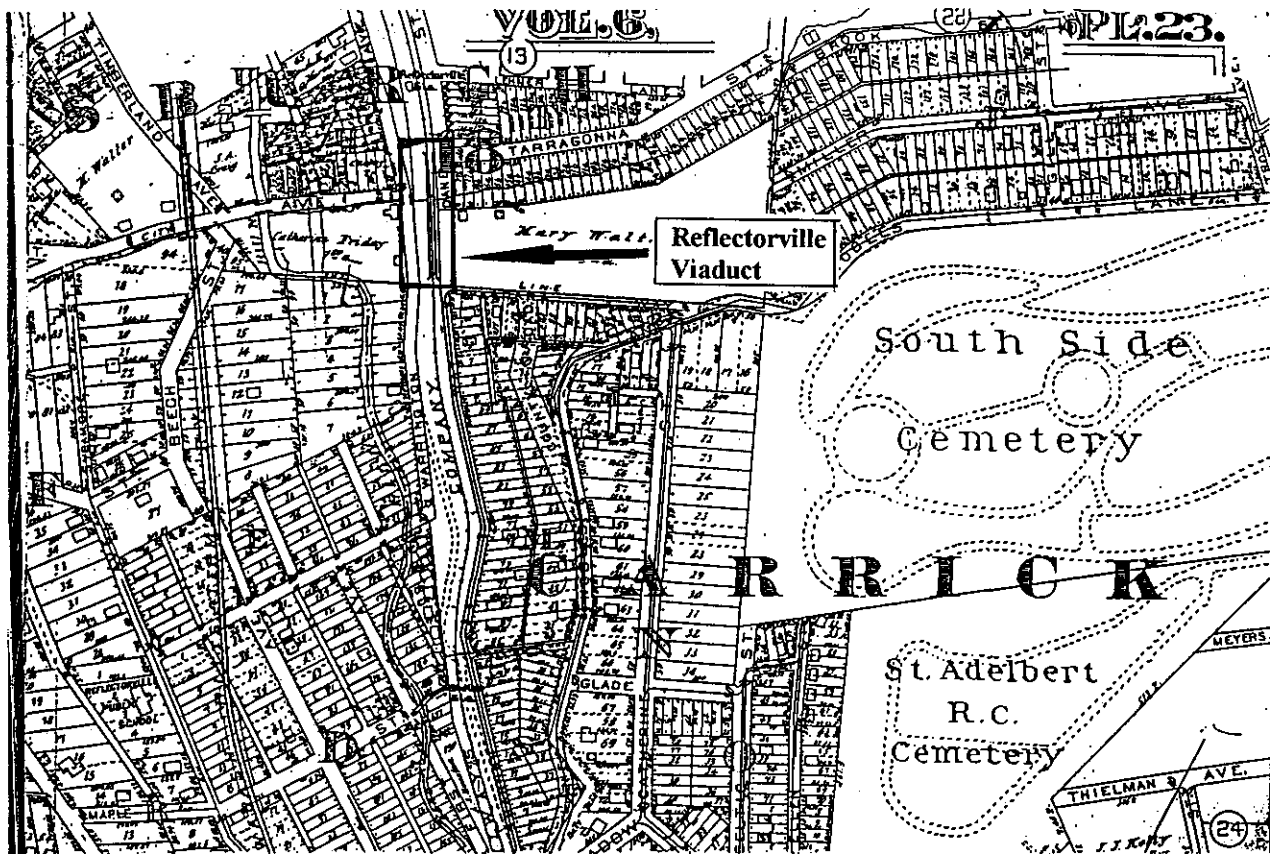
AWK Consulting Engineers. "Periodic NBIS Bridge Inspection Report--Reflectorville Viaduct, Prepared for the Port Authority of Allegheny County." Pittsburgh, Pennsylvania, April 1992.

Hopkins, G.M. *Maps of Pittsburgh, Volume 6, Plate 23*. Philadelphia, Pennsylvania: G.M. Hopkins Company, 1916, Revised in 1928.

Port Authority of Allegheny County. *Light Rail Transit System Map*. Pittsburgh, Pennsylvania, ND.

\_\_\_\_\_. "Maintenance Department Plans, Plate B." Pittsburgh, Pennsylvania, ND.

PITTSBURGH & CASTLE SHANNON RAILROAD,  
REFLECTORVILLE VIADUCT  
(Pittsburgh & Castle Shannon Railroad, Bridge No. 1006)  
HAER No. PA-410-C (Page 5)



Scale 1" = 513 feet

Illustrating the Reflectorville Viaduct in its Setting

Original Scale 1" = 200 feet

1916

Griffith Morgan Hopkins, *Maps of Pittsburgh, Plate 23*  
(Philadelphia, Pennsylvania: G.M. Hopkins Company, 1916)